

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
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PCT

WRITTEN OPINION

(PCT Rule 66)

Date of Mailing (day/month/year) 21 MAR 2003	
Applicant's or agent's file reference CRNT-0072	REPLY DUE within 2 months/days from the above date of mailing
International application No. PCT/US02/04300	International filing date (day/month/year) 14 February 2002 (14.02.2002)
Priority date (day/month/year) 14 February 2001 (14.02.2001)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): H04M 11/04; H04B 10/00, 10/12, 11/00 and US Cl.: 340/310.01, 310.02, 310.03, 310.04, 310.05, 310.06, 310.07, 310.08; 379/56.2; 359/171, 173; 333/152, 154	
Applicant CURRENT TECHNOLOGIES, L.L.C.	

<p>1. This written opinion is the <u>first</u> (first, etc.) drawn by this International Preliminary Examining Authority.</p> <p>2. This opinion contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application <p>3. The applicant is hereby invited to reply to this opinion.</p> <p>When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).</p> <p>How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.</p> <p>Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 <i>bis</i>. For an informal communication with the examiner, see Rule 66.6</p> <p>If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.</p> <p>4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 14 June 2003 (14.06.2003)</p>	
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Benjamin C. Lee Telephone No. (703) 305-8576

WRITTEN OPINION

International application No.

PCT/US02/04300

I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-17, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

- ☒ the claims:
 pages NONE, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages 18-21, filed with the demand
 pages NONE, filed with the letter of _____

- ☒ the drawings:
 pages 1-9, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☒ the claims, Nos. 1-57
- ☐ the drawings, sheets/~~fig~~ NONE

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

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PCT/US02/04300

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>60, 62-63 and 65-89</u>	YES
	Claims <u>58-59, 61, 64 and 90-91</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>58-91</u>	NO
Industrial Applicability (IA)	Claims <u>58-91</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

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VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

I. Claims 90-91 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claims 90-91 are indefinite for the following reason(s): In claim 90, line 6, "said low pass filter" lacks antecedent basis.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

V. 2. Citations and Explanations:

- I. Claims 58-59, 61, 64 and 90-91 lack novelty under PCT Article 33(2) as being anticipated by Osterman (US pat. #5,410,720).
- 1) In considering claims 58-59, 61, 64 and 90-91, Osterman disclosed in Figs. 1 & 4 communicating data via a power line (30) using an inductor low pass filter (84) in communication with the power line to prohibit flow of data signals through the power line, a transformer (86) having a first winding with a first and second ends electrically coupled to the power line on first and second sides of the filter, respectively, via first (88) and second (90) capacitors, respectively, and a second winding electrically coupled to receive circuitry (inherent From Figs. 1 & 4 wherein the Fig. 4 illustrated a "tap" circuit the output, i.e. the second winding of said transformer, of which are connected to receiver circuitry in accordance with the disclosure corresponding to Fig. 1).
- II. Claims 60, 71-73 and 77-79 lack an inventive step under PCT Article 33(3) as being obvious over Osterman in view of Maraio et al. (US pat. #5,426,360).
- 1) In considering claims 60, 71-73 and 77-79, Osterman disclosed all of the claimed subject matter as in claim 58, and furthermore:
- a) It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a known toroidal type inductive filter having a magnetically permeable core can be used as a specific choice for the inductor filter taught by Osterman for its particular filtering characteristics, and furthermore that a known physical implementation of such a toroidal core around a power line using first and second core portions with a spaced relation and with a hinge such as taught by Maraio et al. (Figs. 2-4 & 7) can be used to satisfy the filtering function of Osterman.
- b) It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a required power supply of the communicating device can be provided by that available on the adjacent power line in a device such as taught by Osterman using a known power-tapping toroidal inductive power supply such as taught by Maraio et al. (Figs. 2-4 & 7) so that a separate power supply is not needed.
- III. Claims 62-63, 65-66, 68-70, 74-76, 80, 82-89 lack an inventive step under PCT Article 33(3) as being obvious over Osterman in view of Paull (US pat. #3,656,112).
- 1) In considering claims 62-63, 65-66, 68-70, 74-76, 80, 82-89, Osterman disclosed all of the claimed subject matter as in claims 58 and 64, and furthermore:
- a) While Osterman teaches a receiver only, Paull teaches the known use of transceiver (205, 206) so that 2-way communication is allowed in certain applications. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a transceiver such as taught by Paull, or its equivalent in the way of a transmitter and a receiver, can be used in place of the receiver in a power line communication system application such as taught by Paull using the coupling such as taught by Osterman so

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

that communication capability and flexibility are expanded by virtue of 2-way communication between two stations.

b) Modulators and demodulators would have been inherent of said transmitters and receivers indicated above, amplifiers would have been obvious for situations where signal strength requires amplification to meet specification of the communication circuitry, and filters would have been obvious where excessive noise is present.

c) Wireless transceiver is met by 205, 206 of Paull.

d) Coaxial cable receiver is met by Figs. 1 & 4 of Osterman wherein Fig. 1 shows the tapped receiver is communicating with coaxial cable 40, while the obvious use of a 2 way communicating transceiver is considered above.

e) It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the invention taught by Osterman and Paull can be applied to other environments including various types of power cables such as one having at least one thousand volts.

f) It would have been obvious that the transceiver be implemented in the form of a known modem for communicating the data further along a communications network having other modems and routers, etc., or other communication devices including those requiring adherence to network related standards such as IEEE 802.11, in applications where a network is advantageous such as when data destinations are large in number and/or separated by vast distances.

g) Since the power line tapping and transceiver system is for communicating data from one destination to another through the power line as an intermediate medium, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that one or more destinations can be an intermediate one coupled to another power line using similar coupling and communicating arrangements.

IV. Claims 67 and 81 lack an inventive step under PCT Article 33(3) as being obvious over Osterman in view of Paull and Skinner, Sr. (US pat. #4,664,002).

1) In considering claims 67, Osterman made obvious all of the claimed subject matter as in claim 66, and furthermore:

a) Skinner, Sr. teaches in a similar system that the transceiver (32) can be fiber optic (14) type. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the transceiver in a system such as taught by Osterman and Paull can be chosen to be of the fiber optic type if the data delivered is destined for optical fibers.

----- NEW CITATIONS -----

US 5,410,720 A (OSTERMAN) 25 April 1995, see Figs. 1 & 4.

US 5,994,998 A (FISHER et al.) 30 November 1999, see Figs. 1-3.

US 4,016,429 A (VERCELLOTTI et al.) 05 April 1977, see Figs. 4-7.

US 3,641,536 A (PROSPRICH) 08 February 1972, see Figs. 5a-5b.

US 5,426,360 A (MARAIO et al.) 20 June 1995, see Figs. 1-4 & 7.